

Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application.

1. – 28. (canceled)

29. (new) A process for preparing *in vitro* differentiated cardiomyocytes from stem cells comprising essentially an incubation of said stem cells with a retinoic ester of hyaluronic acid and further optionally selecting a contractile unit comprising said cardiomyocytes.

30. (new) The process according to claim 29, wherein said retinoic esters are characterized by a substitution degree of hyaluronic acid with retinoic acid comprised from 0.00001 to 0.5.

31. (new) The process according to claim 29, wherein said retinoic esters are mixed esters of hyaluronic acid with butyric and retinoic acids.

32. (new) The process according to claim 31, wherein such mixed esters have a degree of substitution with butyric acid ranging from 0.05 to 1.0, a degree of substitution with retinoic acid ranging from 0.002 to 0.1 and a ratio between the degree of substitution with butyric acid and retinoic acid (DS RA/DS BA) of at least 6.

33. (new) The process according to claim 29, wherein said stem cells are autologous or heterologous.

34. (new) Process according to claim 29, wherein the selection is performed by means of “gene-trapping.”

35. (new) The process according to claim 29, wherein said stem cells are mammalian.

36. (new) The process according to claim 35, wherein said mammalian are selected from the group consisting of H. sapiens, primates, higher primates, rodents, swine, bovines.

37. (new) The process according to claim 35, wherein said stem cells are of embryonic or somatic stem cells.

38. (new) The process according to claim 35, wherein said stem cells are selected in the group consisting of P19, D3 cells, R1 cells, GTR1 cells.

39. (new) A therapeutic method for treating a heart failure condition in a patient in need of such a treatment characterised in that heterologous or autologous stem cells are differentiated “in vitro” or “ex vivo” with a retinoic ester of hyaluronic acid into cardiomyocytes according to the process of claim 29.

40. (new) The therapeutic treatment according to claim 39 wherein the degree of substitution of the esters of hyaluronic acid with retinoic acid is comprised from 0.00001 to 0.5.

41. (new) The method according to claim 39 further comprising a step of re-implantation of differentiated stem cells into a patient.

42. (new) The therapeutic treatment according to claim 39 wherein said heart failure is a myocardial damage and/or a cardiomyopathy.

43. (new) The therapeutic treatment according to claim 42, wherein said myocardial damage is myocardial infarction.

44. (new) A process for the selection of new molecules with cardiogenic-modulation activity comprising a step of incubation of a stem cell with a retinoic ester of hyaluronic acid wherein said ester has a substitution degree of hyaluronic acid with retinoic acid comprised from 0.00001 to 0.5, optionally a step of selection of the contractile units comprising said cardiomyocytes, and optionally a step for optimization of the selected molecules.

45. (new) A process for the preparation of an *in vitro* cell model for cardiogenic differentiation of stem cells, comprising essentially a step of incubation of said stem cells

with retinoic esters of hyaluronic acid, alone or in combination with other substances, in a suitable culture medium, wherein said esters have a substitution degree of hyaluronic acid with retinoic acid from 0.00001 to 0.5.

46. (new) The process according to claim 45, wherein such retinoic esters are mixed esters of hyaluronic acid with butyric and retinoic acids.

47. (new) The process according to claim 46, wherein such mixed esters are characterized in that they have a degree of substitution with butyric acid ranging from 0.05 to 1.0, a degree of substitution with retinoic acid ranging from 0.002 to 0.1 and a ratio between the degree of substitution with butyric acid and with retinoic acid (DS RA/DS BA) of at least 6.

48. (new) The process according to claim 45, wherein said stem cells are selected from the group consisting of P19, D3, R1, GTR1, H1, H7, H9, H9.1 and H9.2 cells.

49. (new) The process according to claim 45, wherein such incubation is followed by a step of selection of the contractile units comprising stem cells differentiated into cardiomyocytes.